

Amendments to the Claims:

1 - 17. (canceled)

18. (new) A method for marking a material, the method comprising the steps of:

a) identifying at least one ion comprised in the said material at a concentration level of below 50 ppm in the unmarked state;

b) selecting a marking composition comprising at least one ion as identified in step a); and

c) incorporating said marking composition of step b) into the unmarked material;

wherein the concentration level of the said at least one ion in the marked material is increased in step c) by at least the factor of 3 as compared to the concentration level of the ion present in the unmarked material.

19. (new) The method according to claim 18, wherein said material is a liquid.

20. (new) The method according to claim 18, wherein said material is an alcoholic beverage, a perfume, a cosmetic product, a drug or pharmaceutical ingredient.

21. (new) The method according to claim 18, wherein the concentration level of the said at least one ion in the marked material is increased in step c) by at least a factor of 5, as compared to the concentration level of the ion present in the unmarked material.

22. (new) The method according to claim 18, wherein the concentration level of the said at least one ion in the marked material is increased in step c) by at least a factor of 8, as compared to the concentration level of the ion present in the unmarked material.

23. (new) The method according to claim 18, wherein said marking composition comprises at least one salt of the group comprising inorganic salts and organic salts.

24. (new) The method according to claim 18, wherein said ion is selected from the groups of ions being comprised in standard sea water.

25. (new) The method according to claim 18, wherein said ion is an inorganic anion.

26. (new) The method according to claim 18, wherein said ion is an anion selected from the group consisting of fluoride, chloride, bromide, iodide, borate, carbonate, nitrate, phosphate, sulfate, and selenate.

27. (new) The method according to claim 18, wherein said ion is an inorganic cation.

28. (new) The method for marking a material according to claim 18, wherein said ion is an cation selected from the group consisting of ammonium(+), lithium(+), sodium(+), potassium(+), rubidium(+), cesium(+), magnesium(2+), calcium(2+), strontium(2+), barium(2+), iron (2+/3+), cobalt(2+), nickel(2+), copper(2+), and zinc(2+).

29. (new) The method according to claim 18, wherein, prior to step a), the concentration level of said at least one ion in the unmarked material is determined.

30. (new) A method for marking and identifying the authenticity of material, the method comprising the steps of:

- a) marking a material according to the method of claim 18, the altered concentration level of said at least one ion being defined as a reference value;
- b) measuring in said marked material the individual concentration of the said at least one ion by means of a sensor; and

c) comparing said measured value with at least one reference value and indicating the result of the comparison.

31. (new) A method according to claim 30, wherein said material is an aqueous or non-aqueous liquid.

32. (new) A method according to claim 30, wherein, prior to step a), the concentration level of at least one ion in the unmarked material is determined.

33. (new) A method according to claim 30, wherein said material is an alcoholic beverage, a perfume, a cosmetic product, a drug or pharmaceutical ingredient.

34. (new) The method according to claim 30, wherein said measuring step is performed as a field audit analysis.

35. (new) The method according to claim 30, wherein said method further comprises the step of an off-the-field laboratory analysis for confirmation of a field audit analysis.

36. (new) The method according to claim 35, wherein said off-the-field laboratory analysis is performed by analytical methods selected from the group consisting of atomic absorption spectroscopy (AAS), ion chromatography (IC), mass spectrometry (MS), or combinations thereof.

37. (new) A method of identifying the authenticity of a material, the material being marked according to a method according to claim 18, the method comprising the steps of:

a) providing reference values of said at least one ion comprised in said marking composition which has been added to said material;

- b) measuring by means of a sensor an individual concentration of said at least one ion in said material to be identified, the sensor being capable of measuring individual concentration values of said ionic compound; and
- c) comparing said measured value with at least one reference value and indicating the result of the comparison.

38. (new) The method according to claim 37, wherein said sensor is an electrochemical sensor.

39. (new) The method according to claim 37, wherein said sensor is an ion-selective electrode.

40. (new) The method according to claim 37, wherein said ion selective electrode is a multi-ion-selective electrode.

41. (new) The method according to claim 37, wherein said sensor is a ion-selective field effect transistor.

42. (new) The method according to claim 37, wherein said measuring step is performed as a field audit analysis.

43. (new) The method according to claim 37, wherein said method further comprises the step of an off-the-field laboratory analysis for confirmation of a field audit analysis.

44. (new) The method according to claim 43, wherein said off-the-field laboratory analysis is performed by analytical methods selected from the group consisting of atomic absorption spectroscopy (AAS), ion chromatography (IC), mass spectrometry (MS), or combinations thereof.

45. (new) A marked material, obtained according to a method according to claim 18, wherein the concentration of the ions incorporated in the marked material, the said ions being comprised in said marking composition, is non-toxic with respect to human or animal use.

46. (new) The marked material according to claim 45, wherein said material is a marked foodstuff or drink, a marked pharmaceutical or a marked cosmetic product.